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EASTERN FRONT (1941) SCENARIO EDITOR **SYSTEMS/TELECOMMUNICATIONS**

Establish your own criteria for Eastern Front battles
(teenagers and up)

by Chris Crawford

Requires: ATARI Eastern Front (1941) Cartridge

One ATARI Joystick Controller

Diskette version (1):
(APX-20233)

ATARI 810 or 1050 Disk Drive
48K RAM

Edition A

CONSUMER-WRITTEN PROGRAMS FOR

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ATARI Program Exchange

EASTERN FRONT(1941) SCENARIO EDITOR

by

Chris Crawford

Program and manual contents©1983 Chris Crawford

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Introduction

OVERVIEW

"I know I did everything right, but now I'm up to my ears in Russians."

Sound familiar? Any self-respecting EASTERN FRONT wargamer has felt this way more than once. Playing the most challenging war game available can often be frustrating. Wargamers are forever saying, "What if?" What if the Russians hadn't fielded as many armies? What if the Germans were distributed differently during the early stages of the offensive? What if I had taken more cities? Now you get the chance to find out.

With the EASTERN FRONT(1941) SCENARIO EDITOR, you control more than a dozen factors that could alter the outcome of the Eastern Front Campaign. You determine the type of armies (e.g. infantry, cavalry, Fliegerkorps), where and when the units arrive on the map, and factors like combat and muster strength that contribute to the unit's battle effectiveness. The map remains the same, but you can organize the combatants in an almost infinite number of variations. The scenario editor thus lets you fine tune the original EASTERN FRONT scenario, or create your own game.

NOTICE. This editor is designed to be used with the EASTERN FRONT (1941) Cartridge and can not be used with the original APX version of the game.

REQUIRED ACCESSORIES

One ATARI Joystick Controller
EASTERN FRONT(1941) Cartridge(RX 8039)
48K RAM
ATARI 810 or 1050 Disk Drive

Getting started

LOADING EASTERN FRONT(1941) SCENARIO EDITOR INTO MEMORY

1. Remove any program cartridge from the cartridge slot of your computer.
2. Plug your Joystick Controller into the first controller jack of your computer console.
3. Have your computer turned OFF.
4. Turn on your disk drive.
5. When the BUSY light goes out, open the disk drive door and insert the EASTERN FRONT(1941) SCENARIO EDITOR diskette with the label in the lower right-hand corner nearest to you. Close the door (use disk drive one if you have more than one drive).
6. Turn on your computer and your TV set. The program will load into computer memory and start automatically.

THE FIRST DISPLAY SCREEN

When the program has finished loading, you see a map of a portion of Russia on the screen with the German military units neatly arranged on the edge of the map. You're now ready to start editing.

Using the EASTERN FRONT (1941) SCENARIO EDITOR

CHOOSING PARAMETERS

With the editor you can determine several parameters controlling the units in play and the game in general. Use the special keys to choose the parameters you want to change. At the top of the screen you see a text window that reads as follows:

TURN 1 TURN

The phrase TURN 1 is blinking and the second word TURN is red. The word on the right (in red) tells you what parameter can be edited. In this case, it's the turn of arrival. The phrase TURN 1 is blinking to remind you of this. Press the SELECT key to determine the game or unit parameter you wish to edit. Press the START or OPTION keys to cycle through the values you can assign to the various parameters. There are several parameters to consider. Each is discussed in detail below. (WARNING. The design of any scenario takes a great deal of time and effort. Be particularly cautious when saving and loading scenarios.)

MAP MODE-UNIT PARAMETERS

Positions

Just as in the game, you use the joystick to scroll the map and the joystick button to identify units when you're working with them. Unlike the game, when the cursor is over a unit and you move the joystick while holding down the red trigger button you effectively "pick up" a unit. The computer doesn't generate orders. Instead, the cursor scrolls. You're now carrying the unit you picked up in the cursor. When you release the red trigger button, the unit remains wherever the cursor is. This allows you to move the units around the map. Put the cursor on it, pick it up, move the cursor to a new location, and drop it. You can't drop a unit into the ocean, and you can't drop a unit on top of another unit. That's all there is to it.

Times of Arrival

You can now position your men all over the map. But there's more work to do. The next critical problem is determining when the units arrive on the map. Everybody arrives sometime. Most of the men should arrive on turn 1, the first turn of the game. However, you may want some reinforcements to arrive on turn 2, turn 3, or even turn 20. You may also want to remove some units from the game, so that they never arrive. You can do all these things.

Remember that the phrase "TURN 1" is blinking in the text window to remind you that you're now editing arrival times. You can change the turn of arrival by pressing the **OPTION** or **START** keys. If you do, you may see all the units go away.

Here's what's going on. The **OPTION** and **START** keys are like time machines. They allow you to see the map on any turn you want. **OPTION** goes forward in time, and **START** goes back. If you hold either key down, it autorepeats faster and faster, allowing you to go to faraway turns very quickly. You can see what turn you're on by reading the turn number in the top text window. With these two keys, you can explore Russia, not only in space, but in time as well. You can see what the map is like on turn 2, for example. Now, if all the units live in turn 1, there are none on turn 2. That's why they all seem to go away when you go to a different turn. Actually they didn't go anywhere; they're still there in turn 1. You left them. Go back to turn 1 to see them all there, ready to go.

You change a unit's turn of arrival by picking it up, changing the turn, and putting it back down. You can move it to any turn you want between 0 and 255. Obviously, if you move it to turn 98, and the game ends on turn 97, it never appears in the game. That's how you can get rid of unwanted units.

Sometimes reinforcements don't arrive when they should. The most common cause of this is traffic jams on the entrance square. Remember, no two units can be in the same square at the same time. Thus, before a reinforcement unit arrives, there's a check to determine if some other unit is already occupying the entrance square. If it is, the reinforcement unit waits a full turn. To avoid this problem, use several squares for reinforcement arrivals.

Unit Numbers

In addition to spatial and temporal position, you can control four other parameters: unit number, unit type, muster strength, and combat strength. Press the SELECT key. The turn number stops blinking, and the word TURN in the upper right of the screen changes to NUMBER. This tells you that you're ready to edit a unit's number. Pick up any unit. Its number (e.g., "48" in "48 PANZER CORPS") now blinks. If you press the OPTION key, the number increases. If you press the START key, the number decreases. You don't have to press the RETURN key or anything else to make your new number go in---what you see is what you get. Again, both the OPTION and the START keys autorepeat faster and faster if you hold either one down. This helps you change the numbers quickly. You can now breeze about the map, changing the numbers of any and all units. Of course, this doesn't do you much good, because the numbers don't mean anything in this game. But for specific scenarios, this allows you to adhere to historical accounts.

Unit Types

If you press the SELECT key again, the text window reads TYPE. This means that you can edit the type of a unit (e.g., "PANZER" in "48 PANZER CORPS"). Pick up any unit and press the OPTION OR START key. You see its type cycle through a wide variety of options. You can create panzer corps, fliegercorps, infantry corps, and so forth. You can change the nationality of the unit. You cannot change a unit type arbitrarily. For example, there's no way you can make a Russian tank army into a Panzer corps. You can't make units change sides (although you could make red units Finnish, Italian, Rumanian, or Hungarian).

The unit type is somewhat important: armor or cavalry move faster than infantry. Militia can't move at all. The two Finnish units conveniently stationed in Finland can never attack anybody, no matter what you change them into.

There are a set number of units available. You can design a scenario with fewer Germans, but no more than 48 German and allied units. For Russians and their allies the maximum number is 118.

Muster Strength and Combat Strength

If you press the SELECT key again, you can change any unit's muster strength with the OPTION and START keys. Press the SELECT key again and you can change the unit's combat strength. The muster strength can take any value between 0 and 255. The combat strength, however, can only take values less than or equal to the muster strength.

Cities

All Russian cities in the starter scenario are red, indicating that they're under Russian control. To change the ownership of any city, place the cursor over the city, press the red trigger button, and press the space bar on the keyboard. The city turns white, indicating that it now counts as German-controlled. Press the space bar and it goes back to being Russian.

The next time you press the SELECT key you see the word MODE and the message "START OR OPTION GOES TO TEXT MODE!" At this point you have two choices: If you press the SELECT key again it goes back to TURN and you can cycle around to edit the other parameters. This way, if you accidentally overshoot a parameter, you can just hold down the SELECT key and cycle back to it. But if you do press either the OPTION or START key, the map disappears and a new text screen appears.

TEXT MODE-GAME PARAMETERS

The map mode allows you to edit the parameters of individual units. The text mode allows you to edit overall game parameters. The editing of these parameters is the same as it is in map mode. Select the parameter to be edited with the SELECT key. Then you hold down the OPTION or START key to change the value of the parameter. In all cases the parameter has upper and lower limits on its value. If you go past one of these limits, the value rolls around to the other limit. For example, you can have a maximum of 127 turns in a game. If you try to go one higher you roll over to 0. If you then go one lower, you roll under to 127. There are 12 parameters to edit:

CITAB ("City TABle")

This determines how many cities are significant to the victory points calculations. If you choose a value of 0, then only Moscow counts for points in the game. If you choose 2, then Moscow, Leningrad, and Stalingrad count. If you choose 17, then all the cities count. You cannot choose which cities will count for points, only how far down the following list you wish to go:

- 0 Moscow
- 1 Leningrad
- 2 Stalingrad
- 3 Krasnodar
- 4 Gorky
- 5 Kazan
- 6 Riga
- 7 Rzhev
- 8 Smolensk
- 9 Kuibishev
- 10 Minsk
- 11 Voronezh
- 12 Orel
- 13 Kharkov
- 14 Kiev
- 15 Rostov
- 16 Dnepropetrovsk
- 17 Odessa

You also cannot change the point allocations for the cities. Sorry, I didn't plan this part of the original code very well. You're stuck with frozen parameters here.

MBLOOD ("Muster strength BLOODiness")

This is the amount of muster strength destroyed in battle (values 1 to 16). Specifically, it determines how many muster strength points are removed from a unit that has been successfully stricken. A small value, like 1, implies that few men die in combat, while a large value like 10 is very bloody.

CBLOOD ("Combat strength BLOODiness")

This is the amount of combat strength destroyed in a battle (values from 1 to 32). It tells how many combat strength points are removed from a unit that has been successfully stricken. CBLOOD may never be smaller than MBLOOD. The ratio of MBLOOD to CBLOOD yields the "bashiness" of the game. If MBLOOD is almost as big as CBLOOD, the game plays like World War I, with units being forced to smash each other out of existence and very few retreats. If CBLOOD is very much larger than MBLOOD, then you get a lot of retreats and a very mobile battle.

FOGTAB ("FOG TABle")

This parameter determines the amount of fog of war in the game. Nine values from 0 to 8 are allowed. The uncertainty in reading the muster and combat strengths of an untested enemy unit is equal to $2 \times (\text{FOGTAB} - 1)$. The smallest value, zero, produces no fog at all. It is normally used in the lower game levels. A value of one produces uncertainties of + or -1. A value of five yields + or -16. A value of six will yield the same amount of fog as in the Advanced Level game + or -32. A value of 7 is normally used in the Expert Level game and yields + or -64. A value of 8 produces + or -128, a great deal of fog indeed.

ENDGAME("END of GAME")

ENDGAME specifies the turn number on which the game ends. Since all games begin on turn 1, this in effect specifies how long the game last. The longest game of EASTERN FRONT (1941) lasts only 44 turns. If you wanted to, you could make the game last up to 127 turns. That's two and a half years! It's not possible to have any scenario include any turns during the month of April. The reason for this is that the weather computations for the month of April were stripped out of the cartridge to save a little space. After all, none of the cartridge scenarios include any April turns. If you have a scenario that includes an April turn, winter won't turn to mud and you'll have perpetual winter except for mud during October.

LBOOST ("Level BOOST")

LBOOST is a simple handicap. A value from 0 to 255 is added to the combat strength of each German unit during the combat phase. This explains how little bitty German units can go around beating up great big Russian bitts in the beginner's level. If you're one of those crazy Germanophiles who loves to see German troops in Moscow before summer ends, put in a value of 255. If you want to fight without any sissy handicaps, use a value of 0.

YEAR, MONTH, and DAY

These specify the date of the first turn. YEAR assumes that we are in the 1940's, and takes values between 0 and 9. It has no significance to the internal game mechanics. It's there solely for the purpose of color. Similarly, DAY only provides color. MONTH specifies the month number, with 1 meaning January and 12 meaning December. Unlike YEAR and DATE, MONTH means something to the game. It determines the passage of the seasons. Note, however, that changing MONTH doesn't produce the map changes normally associated with the passage of seasons in the game. Note also that DAY can never be set to take a value of 31.

The Russians don't move on the first turn. This is a holdover from the 1941 scenario in which the Germans have the initiative. It happens because no units may move on the same turn that they arrive on. If you want the Russians to move on the first turn, edit the scenario so that turn 1 starts one full turn before the action does. As an example, you would define turn 1 as June 15, 1941 for a scenario you wanted to start on June 22, 1941. Have all the June 22 units arrive on June 15. Save the scenario to diskette. Then load the scenario with the cartridge in place. Give no orders to any of the German units. Press the START key. Nothing will happen. The date on the display will change to June 22. Press the OPTION key to save the scenario.

SAVETURN

This allows you to edit the turn number from 0 to 127 on which the scenario plays. This is distinct from the turn number that you edit in map mode. That turn number allows you to edit the turn of arrival of each unit. This one lets you decide when the game is to begin. If you're creating a new scenario, you'll always want this to be 1. Indeed, if you fail to set SAVETURN to 1, you won't be able to re-edit the scenario at a later time! your scenario will have all the earlier-arriving units arriving on the new SAVETURN value. Thus, the need for editing this variable may not be that obvious.

One other application of this parameter is for cheating. Suppose you're in the middle of a tough game and you launch a risky offensive, an offensive that fails. No problem! Save the game to diskette, load up the scenario editor, load in the saved game, and rewrite history.

Be careful with SAVETURN. This variable can screw you up in many ways. Its potential for mischief and confusion is so great that I seriously considered leaving it out and forcing you to always have the game start on turn 1. However, I decided to give you the option to shoot yourself in the foot. If in doubt, set SAVETURN to 1.

LEVEL

LEVEL determines the level from 0 to 4 at which the game is played. There are quite a few rules that only come into play in the higher levels. The game manual describes this process. LEVEL allows you to choose which rules to include in your scenario. If you want everything, use a value of 4.

SCENRO("SCENaRio")

SCENRO allows you to select the 1941 rules or the 1942 rules. What's the difference? Pretty trivial. In the 1942 scenario, unit #109, a Russian militia unit defending Sevastopol, is allowed to recover from disruption more quickly than normal. In the 1941 scenario, he isn't allowed this privilege.

LOADING AND SAVING TO AND FROM DISK

Once you have all the values you desire, you need to save your new scenario. Put in a fresh diskette so that you don't ruin the original scenario supplied with the diskette. Move the inverse video band to the appropriately marked line and press START. The newly completed scenario is written to a file called "EASTFRNT.SAV". Any new scenario will be saved to this same file, so you must be extremely careful when you load or save finished scenarios. This done, you can shut down and insert the EASTERN FRONT (1941) cartridge, load and play your custom scenario.

If you don't like the way your scenario came out, you can always reload your scenario and modify it. Run the scenario editor, go into the text mode, put the inverse video on the LOAD/SAVE option, and press OPTION. This loads whatever EASTFRNT.SAV file is on the diskette, presumably your faulty scenario. Change it around and try again.

RETURNING TO MAP MODE

The last option on the text screen is to go back to the map. Press either START or OPTION to do this. If you press SELECT instead, the inverse video bar cycles back up to the top of the screen and you can start editing game parameters over.

SOME SUGGESTIONS ON SETTING UP YOUR FIRST SCENARIO

1. Position all of the units. Most should be set up to come in on turn 1. Some can be sent to the map edge to come in as reinforcements on later turns.
2. Adjust the muster and combat strengths of all the units.
3. Set TURN to 1.
4. Set CITAB, LEVEL, and SCENRO to the toughest values (17, 4, and 0).
5. YEAR, MONTH, and DAY can be set at the historical value for the original invasion, June 22, 1941.
6. FOGTAB can be set to 7.
7. ENDGAM takes some hard thinking. Determining the length of the game is a critical decision, because a game will often start to run away in the last few turns. Avoid this runaway phenomenon at all costs. Remember that every scenario must end before April, or your weather will foul up. For the same reason, no scenario can start before May 1.
8. The most critical variables to consider are LBOOST, MBLOOD, and CBLOOD. These three variables have a dramatic impact on the play of the game. LBOOST can give the Germans a big boost. Of course, this makes it easier for the Germans to win. However, it can also have a subtle effect on the play of the game. With large values of LBOOST, the differences in combat strength between German units becomes insignificant. The player need not concern himself with their actual combat strengths. So long as they're alive, they hit very hard. Successful play with large values of LBOOST requires the player to maneuver the maximum number of German units into combat situations and attack frequently.

MBLOOD and CBLOOD are easily the most important numbers in the scenario. By controlling the bloodiness of combat, the player controls the pace of the game, its duration, dependence on maneuver versus combat, and a host of other factors.

If both MBLOOD and CBLOOD are set equal to 1, then the game will proceed very slowly with light losses on either side. Only units that are out of supply will retreat; thus, it will be almost impossible to punch holes in a line. Cutting units out of supply will be the overriding tactic of the game. Very low unit densities would be required to make such a game work.

If, on the other hand, MBLOOD were 10 and CBLOOD were 20, then the game would play very quickly, with units dying very easily. Encirclements would be very easy to pull off, but might well be pointless, as one could massacre enemy troops faster than one could starve them.

9. Playtest the scenario a number of times and adjust the strengths of the units and modify the reinforcements to keep the balance right. It should take at least half a dozen trials to get it right.

10. WARNING! The power of this editor can cause unexpected problems. I tried to eliminate the most serious traps, but it's very hard to give someone lots of power with little danger. I'm sure some poor user will try something crazy and get himself into a really fouled-up situation. That will be a shame, but I won't feel dishonored. I made a conscious trade off of my time against the "foolproofness", and I'm satisfied with the compromise. GOOD LUCK.

Designer's notes

by Chris Crawford

There are many odd and interesting tidbits that creep into a design during the course of the work. Most of the time these oddities are forgotten, overlooked, or ignored. In this document I would like to discuss some of these oddities. Then I would like to describe how I perceive the game.

OUTLINING GOALS

The first question that should be asked about the EASTERN FRONT(1941) cartridge concerns its very existence. Why in the world would I spend my time preparing a reworked version of what was already a very successful program? A number of people urged me not to expend precious time and energy redesigning an old game; my time would be better spent working on a completely new game. I was very tempted to do just that. Three reasons compelled me to do the reworked game. (1) I wanted to fix some of the problems in the original game. It had many unnecessary flaws I wanted to correct. (2) The original design was straightforward and simple with few embellishments. I wanted to extend the game, and add a collection of new features to it. (3) It was obvious that sales would eventually start to fall. By putting it in the main ATARI line, the game would enjoy much higher sales and earn continued high royalties. That's always nice. I boiled all of my considerations down to four primary goals, in the following order of priority:

- 1) Reach a larger audience with the game.
- 2) Drive home more forcefully the message of the original game.
- 3) Correct weaknesses in the original game.
- 4) Add new features to appeal to owners of the original game.

Levels of Play

The first goal implied the use of levels of play. This would make it possible for a beginning player to play and enjoy the game at his or her level. As the player became more adept with the system, it would be simple to move to a more advanced level.

Given that the game would use levels, it became obvious that the progression from level to level would provide the lesson of the game. Thus was born the victory point system, that slowly shifts the player from a simple-minded shoot-em-up attitude towards war to a more responsible attitude.

This graduated level scheme also suggested the manner in which I could accommodate previous players. The expert level contains a variety of features not found in the original game. The primary features to be offered in the expert level (Fliegerkorps, modes of action, and fog) were decided upon very early in the development of the game.

Correcting Weaknesses and Adding New Features

Of the weaknesses that I wanted to correct in the game, the most obvious was the lack of a load and save feature. Many people had objected to that shortcoming of the original game, and I had developed a number of very creative explanations as to why it was not included in the game. The real reasons for the lack of a load and save feature were twofold. First, I had always been too lazy to figure out how to use CIO to do the job. Second, the very complex graphics and interrupt structure of the game made loading and saving it a very tricky operation. Handling the CIO was easy; handling the trickinesses of my own code was an entirely different matter.

So it was that in September of 1982 I set to work reprogramming the entire game. Within two months I had completed almost all of the work I had outlined for myself. I had even added a number of unplanned features, such as the sliding graphic that allows units to slide from point to point instead of hopping as in the old game. That sliding feature is quite a stunt and required considerable sleight-of-hand.

On Friday, October 29, 1982, I met with representatives of ATARI for formal consideration of the new game. I had a working version of the new game and a completely new manual. During November and December I polished the game, and added a number of new features, some at the request of ATARI. The city names feature was added at this time. I spent a great deal of time scrunching code and testing it very carefully to make sure that it was absolutely bug-free.

The biggest break for me came when I found a way to compress the data for the scrolling map of Russia. This data had previously consumed 2K of space. I hit upon a way to scrunch it down to 900 bytes. At a single blow I had freed more than 1000 bytes. The new question facing me was, how do I use this windfall? I was torn between a 1942 scenario and an endgame graphic sequence. I decided on the 1942 scenario.

The new scenario went in during December. It was a big mistake, for it ruined one of the finest features of the game. I had created a sequence of levels that would move the player from a childish view of war to a sober view of war. The culmination of this sequence was the Expert level 1941 game. This game was supposed to drive home the ultimate futility of the war on the Eastern Front. If the Expert level was the climax of the game, what function did the 1942 game serve?

I was saved from this gross misstep by the cleverness of the technical writer, Steve Engelhart, who devised the clever scheme used in the manual. I have to credit Steve for recreating artistic unity in a game that had lost it.

At the final evaluation meeting an unexpected number of trivial issues came up. After two hours of debate, the marketing representative interrupted all of us. "Doesn't anyone have any serious objections to this cartridge?" he asked. There was no reply. And that's how we finished work on EASTERN FRONT (1941).

The Origin of the Editor

It was sometime during this period that I realized the capability for this scenario editor. If the cartridges can load a file, why couldn't we fool it into loading a modified file, one with all sorts of parameters changed? Thus was born the idea of the scenario editor. This scenario editor became the recipient for all sorts of ideas that we couldn't fit into the mainline product. Whenever somebody suggested some new piece of informaton to include in the mainline product, the standard answer was always, "Let's put that in the scenario editor."

A DISCUSSION OF THE GAME SYSTEMS

This game bears a strange relationship to the conventional board wargames. It was obviously inspired by such games. The use of zones of control is perhaps the most significant feature borrowed from boardgames. Yet, EASTERN FRONT (1941) violates many of the time honored standards of the boardgame world.

The Movement System

The rectangular grid is the first factor to consider. Why on earth would I use a rectgrid when hexgrids have been absolutely standard for fifteen years? The answer is not that rectgrids are easier to work with---my very first wargame, TANKTICS, used a hexgrid. I could easily have transported that code to EASTERN FRONT (1941). The real reason for using rectgrid was the display and the joystick. A television display has a fundamentally rectangular architecture. Displaying hexgrids on a television can only be done with a certain degree of clumsiness. Far more important is the joystick. Joysticks allow four directional entries, not six. If you use hexgrid, you must use the keyboard for orders entry. There are some wargames available for the ATARI that use hexgrid systems. They use a joystick for scrolling and the keyboard for orders input. These games have many merits, but their orders entry systems are typically clumsy. So, I went to rectgrids.

The Combat System

For the combat system of this game I deviated from standard practice again. For years the industry has used Combat Result Tables (CRT's) to determine the outcome of battles. These tables require the player to crudely estimate a force ratios and cross-reference the estimate against a die roll. The system is very crude but is made necessary by the limited computational skills of most human players. Now that we use the computer, we can dispense with CRT's and use detailed formulas for the resolution combat, right? Wrong! Many wargamer designers are so set in their ways that they continue to use CRT's in their computer wargames. What a waste! Fortunately, dear reader, The Craw is not so pigheaded.

I set out to design an algorithmic combat resolution system. Each full turn is divided into 32 subturns, or ticks, as I call them. Movement costs are expressed in the tick costs to enter a square. Thus, if unit A attempts to attack unit B in an adjacent square, then A must first wait for a certain number of ticks. When the waiting period has expired, A attempts to move into B's square. Finding B there, it attacks.

The central concept of the attack is simple: the attacker's combat strength is compared with a random number between 0 and 255. If the attacker's combat strength is larger than the random number, then the attacker scores a strike against the defender. MBLOOD is subtracted from the muster strength of the defender, and CBLOOD is subtracted from his combat strength. We then check for breakages and/or death. If CBLOOD is zero, the defender dies. If not, we proceed to check for breakage. If the ratio of the defender's combat strength to his muster strength falls below his breakage threshold ($1/2$ for Germans, $7/8$ for everyone else), then the unit breaks and attempts to retreat. It attempts to head away from the attacker. If this route is blocked, then it will try to retreat towards its home map edge, then north, then south, then towards the enemy map edge. Each time that it finds a retreat route blocked, it suffers a loss of combat strength.

This is the basic combat system. It has a number of special embellishments thrown into it. For example, before the attacker actually makes his attack, the defender gets to make a pre-emptive attack, although only half of the defender's combat strength is used for this counterattack. I threw in a number of modifications for terrain, motion, and other factors. Units attacking from a river square are halved in strength. In Level 4, defenders are additionally doubled. Defenders that are moving are halved. Entrenched defenders are doubled.

The effects of all these factors are rather different from combat in boardgames. In the first place, it is very difficult to figure out in advance how a combat will resolve itself. You see, the entire battle system I have described is applied for a single battle in a single tick. If that battle does not result in the destruction, breakage, or retreat of one unit, another battle will be fought on the very next tick. Thus, a fiercely contested battle might be fought as many as twenty times. Many of those battles will yield no result, but some will yield a result. When you fold all the results together, you get a very complex function with smoothly varying properties.

This system makes battles between big units very bloody and battles with little units very sanitary. If a unit's effective combat strength is small, it will never score a strike and nothing will happen. Thus, games with low average combat strengths tend to move more slowly.

Logistics

Another important system in this game is the logistics system. Each unit attempts to trace a line of supply back to its home mapedge (east for the Russians, west for the Germans). If it fails, the unit is out of supply and its combat strength is halved. An important feature of this system is its probabilistic nature. In attempting to trace the line of supply, the unit will perform a kind of random walk. Each time it encounters a blockage, such as an enemy unit or zone of control, it randomly chooses a new direction in which to move and increments a counter. When that counter exceeds a set value, it gives up the random walk and declares itself out of supply. The fact that the choice of direction is random yields an interesting feature. Units that have good supply lines will always get supply, but units caught up in a fluid situation, with supply lines twisting all over the battlefield, might not get supply. I've always believed that this is a more realistic simulation of the realities of supply than the conventional deterministic formulas for supply line tracing.

TIPS ON STRATEGY

Cutting Supply Lines

I will confine my comments to the Expert Level, assuming that anyone dedicated enough to buy this product is already playing at the Expert Level. As in the original game, the key to success is the ability to surround enemy units, thereby throwing them out of supply. This is normally done in three steps. First, you concentrate strength on an appropriate point in the enemy line. You smash that single point, and burst through. Second, swing to the rear of a suitable group of armies, cutting them out of supply. Third, mop them up with front line infantry units. It sounds simple but in actual practice there are many other factors to consider. Does the terrain hinder your movements or the Russians'? Are Russian reinforcements close at hand? Is your mopping-up force strong enough to clear out the Russians before your Panzers face counterattack? Judgments like these demand skill and careful planning.

Protecting Fliegerkorps

The Fliegerkorps are absolutely crucial units. You must never allow a Russian unit to get close to them. Their value arises from their tremendous flexibility. They can always be applied right at the crucial point of battle, and they will almost always guarantee that the unit they support will be victorious. Their flexibility is useless however, if you do not use it to its fullest. Each Fliegerkorps should try to fly a mission or march on every single turn. Marching should be rare; you want them to spend most of their time flying. I prefer to use Fliegerkorps for offensive missions rather than defensive ones. Thus, if a unit is surrounded and fighting for its life, I would rather use a Fliegerkorps to help the units riding to the rescue than to help the beleaguered unit. I use Fliegerkorps for defensive missions only when I have no outstanding offensive missions to give them.

Battle Modes

The four new modes available to the player must be used with great care. Most units will spend most of their time in standard mode. Forced march should never be used by panzer units, for they gain little benefit from it. Other units should use march mode only when they must move long distances quickly. A forced-marching unit should never be expected to go directly into battle. Rather, it should force-march to the vicinity of the front on one turn, go into standard mode, and then advance to contact on the next turn. Forced marching has two primary uses: (1) bringing infantry reinforcements up to the front quickly and (2) allowing the infantry to keep up with the panzers during a fast advance.

Entrenchment is a very useful mode for units on the defensive. If they are not going anywhere, it will make them hold out longer against attackers.

Assault mode is a dangerous and expensive mode. It allows your units to hit the enemy harder, but you pay in disproportionately higher casualties. It is always cheaper to wait an extra turn to make an attack cheaper. The only justification for assault mode is an emergency situation demanding a successful attack. For example, if a unit were surrounded and about to be crushed by a big, mean Russian unit, you might put relief attackers into assault mode in the desperate hope that they might be able to spring open the trap before the beleaguered unit died. If you had Moscow surrounded but not quite captured on the last turn before mud, you might well put the attackers into assault mode to finish it off quickly. Assault mode should be reserved for situations such as these.

The Fog of War

The fog of war does complicate planning a bit. Its greatest effect seems to be to occasionally mislead assessments of local situations. Some big monster unit turns out to be a pussycat, or vice versa. In general, though, almost all of the Russian reinforcements in the 1942 scenario are monsters, so it's best to assume that anything new is dangerous. Fog of war is more significant when enemy units come in many different sizes; then it can really keep you guessing. This condition is more closely approximated in the 1941 scenario.

1942 Scenario

Of the two scenarios, the 1942 is meant to be the more difficult. The Russians are much stronger and the Germans are much weaker. It's true that the Germans don't have as far to go, but that only means that the campaign will not be very mobile, and the German player's biggest advantage is in mobility. All three sectors face very difficult situations.

In the northern sector, running from Rzhev to Leningrad, the Germans begin the game seriously outnumbered. The Russians can simply wear down the German line with a long attrition battle. Eventually the German line will start to break apart under this pounding. Somehow the Germans must prevent this outcome. Retreating for regrouping is impossible; both ends of the line are trapped by Russian forces. The German player has to take the initiative and conduct a precision offensive that can destroy the bulk of the Russian forces. Don't expect the type of overwhelming victory obtainable in the 1941 scenario; if you do succeed in shattering the northern Russian forces, your own forces will probably be shattered as well. Nevertheless, it's possible to obtain an unequivocal victory on this sector, capturing both Leningrad and Moscow.

The central sector, running from Rzhev in the north to Kharkov in the south, appears to be the most promising sector for a successful offensive. Unfortunately, appearances are deceptive. The powerful panzer forces lined up in the Orel area have almost no place to go except straight forward. They tend to suffer considerable losses in the initial breakup of the Russian line. Once they have pressed forward to the Don river, they have to choose among three strategies: north, east, or south. Pressing due east, on into Voronezh, will entail a costly frontal assault. Even if it is successful, no strategic benefit will have been obtained. There is no place to go, no good avenue of attack from Voronezh. Voronezh is a springboard to nowhere.

The drive north looks very promising, for it offers the prospect of capturing Moscow. If successful, it would also result in the pocketing of many Russian armies in a huge salient southwest of Moscow. However, the Russian armies between Orel and Moscow are thick. You'll not be able to slice through them in a lightning campaign. It's possible to get through, but it'll require a slow, steady, chopping strategy rather than a headlong blitzkrieg.

In the real campaign, the Germans chose the southern attack. This took them down the gap between the Don and Donets rivers. The strategic prize here is the destruction of the Russian armies along the Donets. This task accomplished, a drive on Stalingrad is fairly easy. You must understand though, that if your central forces move southward, you'll never have the strength to take Moscow.

The southern sector faces powerful Russian armies ensconced in strong defensive positions. An all-out attack is out of the question. I have tended to concentrate my firepower on a narrow offensive just north of Rostov, with the intention of penetrating the front and then wheeling around to surround and capture Rostov. Once this is done, the front is ripped wide open and my problems change dramatically. Some forces must be sent southward to take Krasnodar, while the remainder must move northeast to support the advance on Stalingrad. Normally this action takes the character of a pursuit against broken enemy forces. If you can make it all the way to the eastern map edge with a SOLID line of Germans, you will have gained a tremendous advantage. The Russians will not be able to bring up their numerous reinforcements. Do not drive single German units up to the map edge, for they will surely be cut off and destroyed by Russian units arriving on their flanks. The pace of the Russian reinforcements along the southern sector will shock and stun you. The situation will reverse from wild pursuit to desperate defense very rapidly. If your defense is poorly managed, you'll find units cut off and destroyed one by one. You must be very careful here that your Fliegerkorps are not lost in a general collapse.

It was my intention that no player would ever be able to achieve a positive score in this scenario. I failed to realize this intention. I myself have obtained a score of +26 points. I have never come close to annihilating every single Russian unit, as I have several times done with the original game. This game can be beaten.

The lot of the common soldier

by Chris Crawford

What was it like to be a soldier caught up in the hurricane of combat on the Eastern Front? It doesn't take much intelligence to guess that life was pretty rough on any poor soul unlucky enough to find himself anywhere near the Eastern Front. Yet, few people, especially few Americans, have any idea of just how horrific the suffering these people endured was. We tend to concentrate on all the big arrows sweeping across the maps, and acknowledge the human aspect of it only by totting up the casualty statistics. The statistics cannot convey what really happened out there. In this essay, I'd like to describe the conditions that the common foot soldier experienced.

The most dramatic aspect of soldiering on the Eastern Front was, of course, fighting, and the infantry of both sides saw a great deal of that. Yet, most of the fighting did not involve immediate killing. It takes but a second to kill an enemy with the weapons of modern war; if an infantryman were to spend just a few minutes killing in this manner, he could wipe out an entire company of several hundred men. Most of the effort of fighting was in preparation for the actual instant of killing.

The infantryman had four primary weapons: the rifle, the machine-gun, the bayonet, and the hand grenade. Of these, the rifle was by far the most common. It was the minimal weapon. The only time that an infantryman would not carry a rifle was when he had a better weapon, such as an automatic weapon. A rifle isn't a very effective weapon for modern war. Although an infantryman can easily get off ten shots per minute with one, most soldiers don't perform very well under the stress of combat. It may be very easy to clobber a clay pigeon or a flying duck with one, but when people are coming to get you, your powers of concentration are deleteriously affected.

The machine gun was the infantry's most effective weapon. A single machine gun, well placed, could do the work of twenty to fifty riflemen. Moreover, the intensity of fire of a machine gun made it very effective against attacking forces. A line of riflemen could be defeated by a sufficiently determined infantry charge. A machine gun was almost invulnerable.

The hand grenade was a secondary weapon. By itself, the hand grenade was next to useless. One did not lob grenades at the enemy in the expectation of blowing him up. You heaved the grenade to stun and shake the enemy as part of an overall attack. Defenders in trenches threw grenades at attacking lines of enemy troops to break up their cohesion and force them to slow down or take cover. Attackers in such situations would throw grenades onto weapons pits just before rushing them. The explosion would not kill all the occupants, but it would certainly stun and disorient any survivors. Similarly, grenades were used heavily in house-to-house combat as a means of clearing houses. The soldiers would chuck in a grenade, wait for the explosion, and then leap in with guns blazing.

The bayonet was the final infantry weapon, and its use was rare. During most infantry charges, attackers would try to enter the enemy trenches. If successful, they would normally engage in hand-to-hand combat with the defenders. Such combat was normally fought with shovels, machine pistols, and bayonets. The bayonet was deeply feared by soldiers on both sides. Perhaps this was because the use of the bayonet was such a personal form of killing. Most soldiers on the Eastern Front killed or were killed without ever seeing their opponent. But the bayonet involved direct confrontation in the act of killing. It was dreaded and hated.

For the infantryman, combat most often meant one of four activities: line assault, line defense, house-to-house fighting, and patrol. Line assault was the attack against prepared positions. This was very dangerous work, because the defender in such cases had gone to great lengths to make such an assault as painful as possible. All manner of weapons were pointed at the no-man's-land in front of the trenches. The soldier's chances of getting across were not good. However, before the attack, the defensive positions were always softened up with artillery and perhaps aerial bombardment. The intention was to guarantee that the attacking infantry would face no opposition, and would only have to occupy the ground. In point of fact, this seldom happened. There were always a few surviving machine guns and artillery. These weapons would wreak havoc with troops in the open.

The German response to this problem had been developed in World War I. Using "infiltration tactics," the German soldiers would crawl and sneak their way forward, avoiding the main points of resistance and trying to get to the rear of the enemy strongpoints. Then they would attack from behind. These tactics required considerable skill and experience from the soldiers.

The Russians did not have the time to train their soldiers so thoroughly, so they used a much simpler tactic. All the men would shoulder their rifles and link arms. The purpose of linking arms was to insure that nobody would lose heart and try to duck. Then they would shout "Ourrah Pobieda" (Hooray for the Motherland!) and charge. The remaining German machine guns would mow the line down. A new line of fresh men would be formed and repeat the effort. It too would be smashed. This process would be repeated until the Germans ran out of bullets or the Russians ran out of men.

Line defense consisted of manning the machine guns, heaving the grenades, and shooting one's rifle. If the enemy made it into the trench, you fought hand-to-hand. When that happened, one side or the other would be annihilated; there were few prisoners. The wounded would be finished off with bayonets.

House-to-house fighting was a nightmare of close-range fighting and sudden death. The urban landscape makes concealment very easy. An unskilled defender, if he is sufficiently determined, can impose heavy casualties on even the most skilled attackers. Stalingrad provided an excellent example.

Patrol was also a common experience for the infantryman. Patrols demanded the most of the soldier in terms of skill. Recognizing this, patrol duty was seldom assigned to inexperienced soldiers. The Russians tacitly admitted the poor quality of their soldiers by seldom sending out patrols.

OTHER DUTIES

Infantrymen did a great deal more than fight. Indeed, the average infantryman spent very little time fighting. Most of the time was spent on far more mundane tasks. The most common was guard duty. Every single infantry unit had to post a reasonable collection of guards every single minute of the day and night. It did not matter how cold or miserable the weather was, or how tired the men were. Without guards, even the most elite of infantry units could easily be annihilated by a small band of attackers. For this reason, most soldiers on both sides spent many long hours watching and listening for an opponent who never came. A man could spend months on guard duty, seeing absolutely nothing, and then have his throat cut because he failed to respond to the sound of a twig snapping. Even if nothing ever happened, he would face severe penalties for falling asleep on guard duty. Moreover, night guard duty was not considered to be anything special. A soldier could march for twelve hours and then pull guard duty that night. The Russian soldier faced even tougher problems. He could be punished for sounding the alarm if there wasn't a crisis.

Marching was another duty that all soldiers endured. Most civilians think of marching as comparable to hiking, sometimes rather fatiguing, perhaps even exhausting, but never odious. This is a misconception. The soldier on the march was required to carry a full pack including, not only the personal articles that a hiker would carry, but also his personal weapons and some ammunition. The load could thus be in the range of 70-100 pounds. Furthermore, marching normally spanned greater distances than hikers cover; during the opening weeks of the invasion, most German infantry averaged forty miles a day, day in and day out for weeks at a time. This is under combat conditions. Of course, even the Germans were surprised at these figures; twenty miles a day continuously was considered a more reasonable figure.

Another common task was "digging in". In modern war, when metal starts flying, anything above ground won't live long, so everyone burrows down into the earth. Soldiers developed an almost religious fervor for the security that Mother Earth gave them. To dig was to live, and so they dug. The first task of any soldier arriving at a new site in a combat zone was to dig a foxhole for himself. A lucky soldier might find facilities already prepared, but this happy discovery was so rare that many soldiers mention the occurrence in their memoirs. The normal procedure was to march all day, stop marching at dusk, dig for an hour, and then prepare some food. Soldiers in a quiet zone, and at any given time most of the front was quiet, would occupy themselves by digging ever more extensive fieldworks. Some of these trenches became quite extensive, every bit the equal of the trench systems used in France in World War I.

Then there were the miscellaneous assignments: burying the dead (or the pieces thereof), helping carry supplies, foraging for food. These tasks occupied little of the soldier's time but provided some break from the monotony of a soldier's life.

LIVING CONDITIONS

To say that living conditions were primitive is to make an understatement bordering on cruelty. Both nations were strained to the absolute limit merely getting the men to the field and supplying them with the weapons and ammunition they needed to fight. Providing them with anything more than the absolute essentials of survival was impossible.

Food was always a dicey affair. The German army made a serious attempt to feed its men, and was fairly successful in providing them with enough calories to keep them from starving to death. However, they made no attempt to provide a nutritious or balanced diet. The diet provided was almost all starch. For the most part, a German soldier receiving regulation food could look forward to a meal of potatoes and bread, or perhaps a gruel. The closest he ever came to protein was when he was lucky enough to get a stew. Even on the Western Front, when supply was better and a German soldier could look forward to better food, the food was so bad that the capture of American K-rations was considered a windfall. The German soldiers relished these rations as delicacies.

The Russian food situation was even worse. The Russians made no national-level effort to supply the men on the front with food. Food supply was a local rather than a rear-area concern. Somehow, the local commanders managed to scrounge enough food to keep their men alive, but it was always a very close thing, especially in the winter. Both the Russian and the German soldiers were always on the lookout for something to eat. The importance of this individual foraging is driven home by the success of the "scorched earth" policy. In the fall of 1943, after the Russian offensive at Kursk, the Germans fell back in retreat. With the Russians hot on their heels, the German armies were in great danger of collapse. Therefore, a scorched earth policy was implemented. As they retreated, they destroyed all the food supplies in the areas they were leaving. Crops still in the field were burned. By denying forage to the advancing Russian armies, they forced the Russians to commit a large portion of their transportation system to the supplying of their troops, rather than weapons. This in turn slowed the whole Russian army down, giving the Germans the breathing space they needed to make good their escape. This scorched earth policy visited great hardships on the civilian population as well. After the war some German generals were prosecuted at Nuremburg for it. The fact that the Russians had implemented such a policy during the early years of the war, with telling effect, did not seem to matter.

After food, clothing is the second essential. For the soldier, clothing means two things: warm clothing in the winter, and good boots. The clothing situation for both sides was always spotty. The worst debacle of the war was the utter failure of the Germans to provide their soldiers with adequate winter clothing for the winter of 1941-42. Nearly three million German soldiers lived through that winter with summer clothing--- light trousers and shirts. Of course, no human being could survive the murderous temperatures in such clothing. They wrapped themselves in anything they could find: sheets, rags, sheepskins, anything that offered some protection against the killing cold. They stuffed newspaper into their boots. Many died of the cold, and many more suffered severe frostbite. All experienced greatly reduced performance because of the cold.

The Russians were far better prepared for the cold weather. Their men had oversized boots which they stuffed with hay for warmth. They also had white camouflage smocks. Despite the terrible cold and the legendary Russian lack of concern for the well-being of their soldiers, very few Russians died from the cold. The Russian winter wear was so good that the German soldiers would eagerly take the garments from the dead or captured Russians and wear them.

Boots are a crucial item to any soldier, for they are what keep his feet intact during the long marches. The German boots of 1941 were of high quality construction but used nails that conducted the cold well, so they were very bad in the winter. As the war progressed, the German boots became cheaper and cheaper, and wore out quickly.

Lastly comes shelter. During the hot summer months, shelter wasn't a major consideration. The soldiers would flop down wherever they could and grab as much sleep as they could. But when winter came, shelter became a matter of life and death. Troops on a stable front line constructed dugouts in the trenches in which they could sleep in relative warmth. The problems arose when the front became fluid, and troops had to find shelter after a day's march. Russia isn't a densely populated country, and structures are few and far between. The destruction of war further reduced the number of shelters. The standard sleeping-place was the Russian *isba*, a peasant structure that served as both home and stable. A large earthen stove dominated the center of this single-room structure. In normal times, the family would all sleep together on the stove for its warmth. The stove would exhaust its fumes directly into the room, which provided a little more warmth and helped keep the bugs away. The soldiers would all crowd into such a place, cramming as many people as possible into the confined space. During the winter months, ferocious battles were fought for the possession of such isbas, and the men fought with suicidal courage, for everyone knew that it was much better to die of a bullet in the head than to freeze to death in the open.

DEATH AND INJURY

The principal concern of the soldier is death; bringing it to others while avoiding it. About a million German soldiers and perhaps four million Russian soldiers died on the Eastern Front. They died in many ways. The most common killer was not the bullet but the artillery shell. You can only be killed by a bullet when you expose yourself to direct enemy fire. Since this requires voluntary action, the soldier has some control over the timing and circumstance of such exposure. He may be ordered to expose himself to enemy fire, but such orders don't come often, and even then he can reduce his own risk somewhat by expert movement. An artillery shell, on the other hand, can kill a soldier at any time, without warning, and despite the soldier's most diligent efforts at self-preservation. Moreover, artillery is much easier and safer to deliver. A rifleman must partially expose himself to fire his weapon. The artilleryman, on the other hand, can fire his weapon with impunity, directly into the enemy's trenches.

For this reason, artillery was a cherished weapon, and both sides expended a great deal of energy on their artillery. The Russians were far more fond of their artillery. They created huge artillery corps whose task it was to pulverize entire zones. The Germans were less profligate in their expenditure of shells, but compensated for this with superior fire control.

Artillery is a random killer. Most artillery shells fall harmlessly on some uninhabited piece of ground. Artillery normally found its victims in one of two ways. The first route was the sporadic shot into the enemy rear. On the front, everyone keeps in the trenches or on their bellies. A half-mile or so back, the men are out of rifle range and can move about more freely. An occasional shell lobbed into this zone might well catch some of them in the open. The real value of this fire, called harrassment fire, is to keep people on edge all the time. If a man never feels safe, the stress will get to him and reduce his combat effectiveness.

The second route for artillery casualties was the lucky hit on a trench or foxhole. This takes a lot of luck, because even a near miss just over the edge of the foxhole may not hurt anybody inside. But a shell that falls directly into a group of men crouched in a foxhole will leave a dark stain, a few fragments of uniform, and chunks of flesh. The men all knew that, and knew that the only thing between them and such an end was the pure randomness of artillery fire. They were absolutely helpless against it, and so waited, contemplating a death that could easily come any second, without any warning.

Yet, many soldiers did not fear a direct hit from an artillery shell, for such a death was mercifully quick. There were far worse things to fear. The soldier caught by artillery in the open faced a worse situation. When a shell explodes it sends red-hot jagged pieces of metal flying in all directions. When one of these things hits a human body, it rips the flesh apart in the most ghastly fashion. Soldiers from all the fronts commented on the horror of seeing human bodies mangled so terribly. Jaws would be torn off, legs reduced to bloody strands of sinew and muscle, viscera shattered. Many such shell wounds did not kill instantly. Some first-person accounts describe the horror of watching such a victim, in the first seconds after being hit, trying to pick up and put back the shattered parts of his body.

The second most frequent killer was the machine gun. It gained most of its kills in the infantry attacks. In a few moments, a single machine gun could kill hundreds of men. Because it used up so much ammunition, machine guns were not used routinely during quiet periods. If the enemy became too casual, a few rifle shots would teach him respect. Better to reserve the machine gun for intense fighting.

The artillery shell accounted for about half of all combat casualties. The machine gun garnered about 25% of the 'honors'; the rifle accounted for maybe 15%. The remaining 10% of combat casualties came from aerial bombardment, grenades, bayonets, land mines, and other miscellaneous forms of mayhem.

SURRENDERING

One of the trickiest problems facing a soldier in warfare was the decision to surrender. A soldier faced with the enemy had to either fight, run, or surrender. Most soldiers fought, not because that was what they were expected to do, but because fighting was the surest way of ensuring survival. Running normally took the soldier out of the relative safety of the trench and into the more dangerous environment just behind the trenches. The soldier who ran abandoned his comrades, and every soldier knew that the individual is helpless on the battlefield. Furthermore, the soldier who ran in isolation faced severe penalties. The Germans had penal battalions, highly expendable units given the most dangerous assignments. The Russians had the NKVD, a sort of bloodthirsty military police who simply shot anyone found behind the lines without a good excuse. Thus, running was not a viable option, unless the entire unit ran.

The only other option, when things were hopeless, was to surrender. If a soldier was lucky, his surrender would be arranged by his superiors as part of a mass surrender. For example, when Stalingrad fell, Von Paulus surrendered 100,000 men. A mass surrender is normally an orderly affair with little danger to the participants, primarily because it takes place over several days and nobody needed to take abrupt action.

Far riskier was individual surrender. A soldier could not surrender as an individual unless he was close enough to the enemy to offer his surrender. It is a sad fact that the range of almost every weapon of modern warfare exceeds the range of the human voice. Thus, a soldier close enough to offer his surrender has probably already been killed. If by some great stroke of fortune, the soldier has survived long enough to make himself heard, then the soldier made his surrender by throwing down his weapon, standing up, raising his hands above his head, and shouting the magic word. Germans surrendering to Russians shouted "Tovarisch!", Russian for "Comrade." Russians surrendering to Germans shouted "Kamerad!", German for "Comrade." It is an interesting revelation on human nature, that men seek mercy from each other by appealing to their comradeship as brothers-in-arms.

Having offered surrender, the soldier then sweated out the longest few seconds of his life. By exposing himself, the soldier made himself a target for just about everyone on the battlefield. Someone nearby might not realize that he was surrendering, and might then kill him. Even those close enough to understand his intentions might well shoot out of a soldier's instinctive reaction to the enemy. Moreover, an enemy who has just spent the last few minutes in extreme danger is not going to be charitably disposed to the people who just seconds ago were blasting away at him. There seemed to be an unwritten rule that soldiers who offered their surrender while they still had an opportunity to fight deserved mercy. Those who surrendered only at the last minute, after they had already been beaten, deserved a bayonet in the gut.

Even if the soldier was successful in having his surrender accepted, he was not guaranteed a safe spot from which to sit out the war. Both sides treated their prisoners of war with utter brutality. For example, of 100,000 German, Rumanian, and Italian soldiers who surrendered at Stalingrad, about 5,000 eventually found their way back to their homes after the war. Most of the rest died in captivity. Statistics for Russians in German hands were comparable.

CONCLUSION

I hope that this essay has conveyed the horror and brutality of life and death on the Eastern Front. It wasn't glorious, it wasn't adventurous, it wasn't heroic. Even the word 'tragic' imparts a greater sense of nobility than such slaughter deserves. Concepts like patriotism, duty, and honor lost all meaning in the overwhelming horror of the fighting. Yet, not all the men died, and not all human decency was lost. When the oddities of war threw enemy soldiers together in circumstances not clearly defined as combat situations, they reacted to one another with friendship. When such face-to-face encounters occurred, the soldiers had to make a split-second decision between their soldier's instinct to kill, and their human realization that their opponent was just as frightened as they were. In many such instances, trigger fingers relaxed, gun barrels lowered, and the two enemies would smile at each other in the realization that their mutual humanity had conquered their separate fears. The tragedy of humankind is that this realization is so seldom made at the national level.



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1. Name and APX number of program.

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2. If you have problems using the program, please describe them here.

3. What do you especially like about this program?

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5. How can the catalog description be more accurate or comprehensive?

6. On a scale of 1 to 10, 1 being "poor" and 10 being "excellent", please rate the following aspects of this program:

- _____ Easy to use
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7. Describe any technical errors you found in the user instructions (please give page numbers).

8. What did you especially like about the user instructions?

9. What revisions or additions would improve these instructions?

10. On a scale of 1 to 10, 1 representing "poor" and 10 representing "excellent", how would you rate the user instructions and why?

11. Other comments about the program or user instructions:

From

STAMP



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[seal here]